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October 6, 1981

Mr. Carl Johnson
Burgin Project Manager
Sunshine Mining Company
P.O. Box 130
Eureka, Utah 84628

RE: Review of Notice of Intention
to Commence Mining Operations
Burgin Project
ACT/049/009
Utah County, Utah

Dear Carl:

The Division staff has finished their initial review of Sunshine Mining Company's original mining plan. Please find it enclosed. We will be at your service to answer any questions or arrange a meeting to discuss a resubmission before bringing the plan before the Board for their approval.

Sincerely,

JAMES W. SMITH, JR.
COORDINATOR OF MINED LAND DEVELOPMENT

JWS/TNT:te

Enc: MRP

REVIEW IN RESPONSE TO A NOTICE OF INTENTION
SUNSHINE MINING COMPANY
BURGIN PROJECT
ACT/049/009
Utah County, Utah

The following questions, suggestions and/or comments have been prepared in response to the Mining Operations Plan for the Burgin Project in accordance with Rule M-3 of the Utah Mined Land Reclamation Act of 1975, Title 40-8, Utah Code Annotated. They are intended to offer the operator an adequate assessment of material presented so far and to allow that information to be supplemented so as to provide a complete Mined Land Reclamation Plan.

Any further questions should be addressed to Thomas N. Tetting and/or a meeting set up to discuss any problem areas.

M-3(1)(a)/M-10(2)

The operator should post perimeter markers on site for the permitted area as well as appropriate warning signs at public entry points.

M-3(1)(c)/M-10(2)

Designs for shaft closure and cross-sections of the waste pile and extension(s) should be submitted.

M-3(1)(d)

Have all transmission lines been constructed so as to be raptor proof?

M-3(1)(e)

If water is to be discharged in the future, the discharge must be permitted through a NPDES discharge permit from the State Department of Health.

Will any part of the mining operation require the use of any appropriated waters? Does the applicant possess any water rights?

It is unclear whether all the surface drainage from the disturbed areas will be impounded by the railroad right-of-way. This may be of concern due to the potential for toxic leachate which may result from water contact with the waste rock material. A revised map delineating the surface drainage direction(s) through the permit area (via arrows) should be submitted to sufficiently present the situation. Particular attention should be given to the existence of two culverts which may allow disturbed surface drainage to leave the area.

What is the acreage of watershed area impounded by the railroad right-of-way? What is the average annual precipitation for this area?

M-3(1)(f)

At what depths have water bearing strata been encountered? What amount of water flow was encountered; in the mine; related drill sites?

M-3(1)(g)

What is the approximate volume and extent of the topsoil to be stored? What assurance is available that topsoil will not degrade after being placed on the waste rock material? The waste rock proves to be acidic implying the availability and potential for heavy metals evapotranspiring to the soil surface. Is an alternate soil storage site available off of the waste rock area?

M-3(2)(f)

A more accurate reclamation schedule should be submitted including development and mining phases as well as an itemized reclamation activity time table (e.g., regrading, reseeding, etc.).

MR-2(e)

The mass stability of waste rock disposal slopes must be assured.

MR-2-11-(b)

Road cuts should be constructed at less than 1v:1h in alluvial materials and embankments at less than 1v:1.5h.

M-10(12)

Revegetation of the waste area could be accomplished by adding the necessary soil amendments and mulching after the seeding operation. Irrigation may also be needed, depending on annual precipitation. Neutralization of the waste rock material will be necessary.

It is suggested that vegetation test plots be initiated to cover a range of applications and species, as well as irrigation methods, topsoil depths (if determined available), mulches and a monitoring program to assure future growth. The implementation of these test plots for the three year forecast life of current development may determine the suitability of a variance for revegetation during future full scale mining activities. Costs of total waste pile treatment may be submitted for surety calculations.

M-10(14)

What is the potential for utilizing other suitable materials for reclamation of waste rock which may be within the permit area? If the

applicant can identify other areas within the permit area where a substantial A and/or B horizon exists, from which suitable materials may be obtained for waste rock reclamation then a feasible plan may be worked out for replacing an adequate soil cover for revegetation.

The applicant should describe the final acreage of waste rock and other disturbance in terms of volume of soil materials available for redistribution, i.e., depth of cover.

VARIANCE REQUESTS

Insofar as "the Burgin Project does not include or require the use of impoundments, highwalls or dams," (Categories 3, 5, 13) Sunshine Mining Company will not be required to commit to reclamation in these areas. However, granting a blanket variance in these areas will not be allowed as certain items within these classification are pertinent; i.e., self-draining spoil piles, nonimpounding pads and regraded areas, open cuts for pads or roadways having stable slopes less than 45°, etc. If the railroad grade bed will be used to retain runoff, erosion control may be necessary. Specific items requested for variance from Rule M-10, number 3, 5 and 13 have not been requested other than the highwall category.

It is the intention of the Division to work with Sunshine Mining Company in the development of revegetative test plots so as to comply with Section 3 of Rule M-10(12). Therefore, a variance to this category will not be given until after the three year period of mine development and only then after it has been demonstrated that revegetation is not possible. The Division has found that these attempts are required in light of the fact that the two acre waste pile will be "utilized for subsequent operations," as stated in Rule M-10. If the test plots proved successful, Sunshine Mining will be held responsible for M-10(12) and revegetation of the waste pile will be necessary. A commitment to success standards stated in M-10(12) is requested if test plots prove successful.

Any drainages (Category 8, M-10) "covered, restricted or rerouted" by the existing waste pile are exempt from concern by Sunshine Mining Company's reclamation efforts. But newly constructed roads, pads, structures, fills or diversions will not be granted a variance from reclamation standards in this category.

Sediment control associated with the waste pile will become the responsibility of the operator and a variance to category 11 of rule M-10 is not given. An attempt should be made to stress the factor of appropriateness for site-specific conditions.

If an alternate supply of "suitable growth medium" is found in the permit area it should be stored and distributed according to Rule M-10(14). The limited supply that has already been stockpiled must be treated similarly. To these limits M-10(14) must be adhered to and a variance not granted. However, it is understood that enough "suitable growing medium" may not be available to cover the entire waste pile and alternate measures may be necessary.